CISC 3115 TY3

C14b: Custom Exceptoins

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Outline

- Discussed
  - Error and error handling
    - Two approaches
  - Exception
  - The throwable class hierarchy
    - System errors and semantics
    - Runtime exceptions and semantics
    - Checked errors and semantics
  - Declaring, throwing, and catching exception
  - Exception, call stack, and stack trace, the finally clause, and rethrowing exceptions
- Custom exceptions
- Simple character File I/O

Defining Your Own Exceptions?

- Before we proceed, follow the best practice
  - Use the exception classes in the API whenever possible.
  - Define custom exception classes if the predefined classes are not sufficient.

Commonly Reused Exceptions

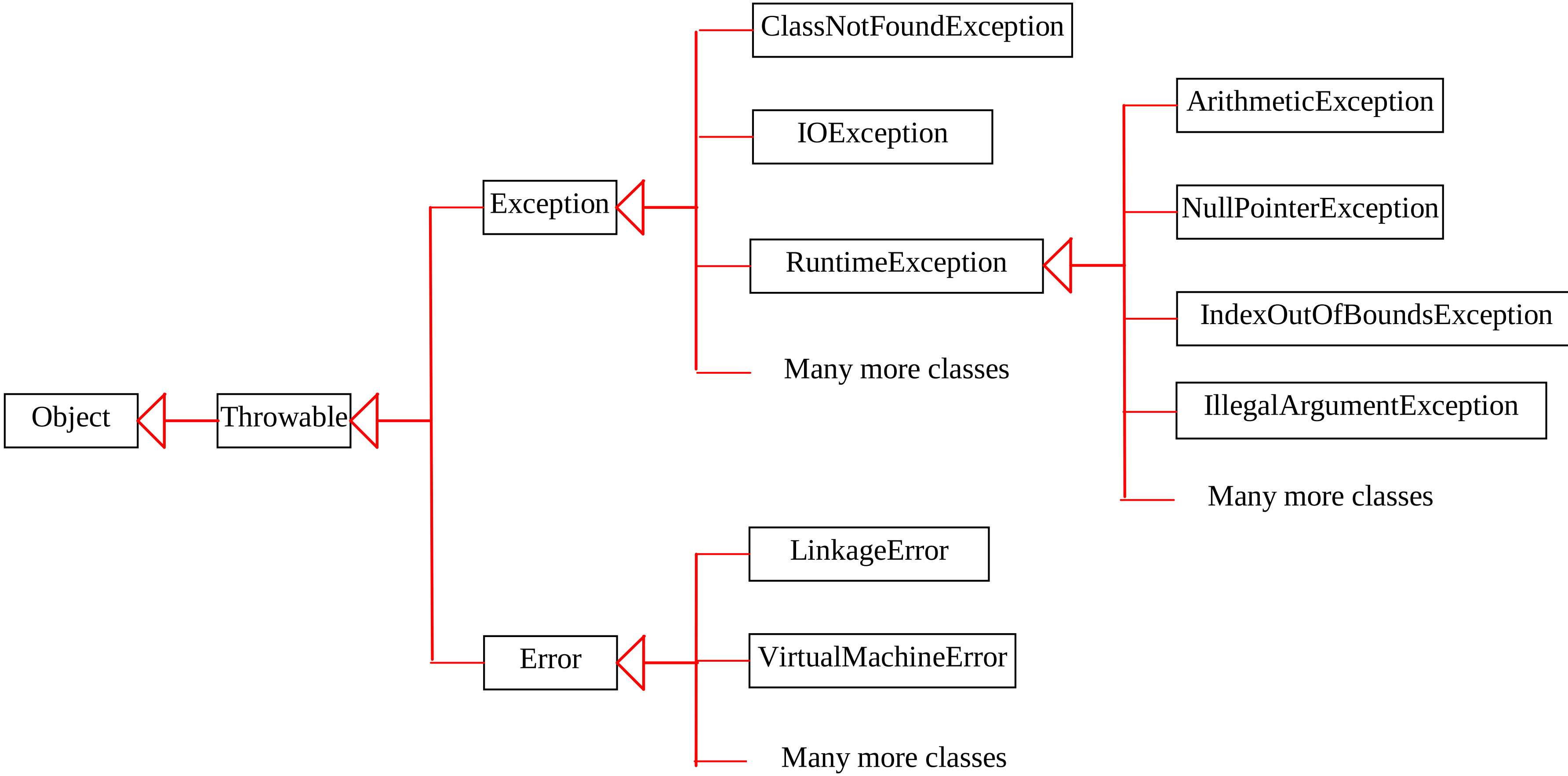
- Use of standard exceptions are generally preferred (Bloch, J., 2008)

Exception	Occasion for Use
IllegalArgumentException	Non-null parameter value is inappropriate
IllegalStateException	Object state is inappropriate for method invocation
NullPointerException	Parameter value is null where prohibited
IndexOutOfBoundsException	Index parameter value is out of range
ConcurrentModificationException	Concurrent modification of an object has been detected where it is prohibited
UnsupportedOperationException	Object does not support method

Defining Your Own Exceptions

- Define custom exception classes if the predefined classes are not sufficient.
- Define custom exception classes by extending Exception or a subclass of Exception.

Recall the Throwable Class Hierarchy



Defining Your Own Exception: Examples

- Define an InvalidRadiusException
- See the example program

Questions?

- One can define her or his own Exception classes by subtyping the Exception class
- When should you use it?